

ABSTRACT OF THE DISCLOSURE

A resonator device utilizes two small mechanical resonators that are electrostatically coupled. A first resonator receives an input signal near its resonant frequency, and the input signal and a second signal are summed and provided to a
5 second resonator. The resonant frequency of the second resonator is approximately equal to the second signal frequency. A width of response of the amplifier is tuned by varying the pump voltage. Resonant frequencies of corresponding individual oscillators are tuned by adjusting bias voltages.

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